

REMARKS/ARGUMENTS

Claims 1, 3-5, 7-9, 11-13, 15-17, 19-21 and 23-25 are pending in the present application. Claims 1, 9, 17 and 25 have been amended, and Claims 2, 6, 10, 14, 18 and 22 have been cancelled, herewith. Reconsideration of the pending claims is respectfully requested.

I. 35 U.S.C. § 112, Second Paragraph

Claim 25 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicants regard as the invention. This rejection is respectfully traversed.

The Examiner notes improper antecedent basis for ‘the set of processors’ recited in Claim 25, and Applicants have amended such claim to correct this issue.

Therefore the rejection of Claim 25 under 35 U.S.C. § 112, second paragraph has been overcome.

II. 35 U.S.C. § 101

Claims 17-24 stand rejected under 35 U.S.C. § 101 as being directed towards non-statutory subject matter. This rejection is respectfully traversed.

While Applicants deny that transmission-type media is non-statutory, Applicants have in any event amended Claim 17 to explicitly recited recordable-type media in order that this case can expeditiously pass to issuance.

Therefore, the rejection of Claims 17-24 under 35 U.S.C. § 101 has been overcome.

III. 35 U.S.C. § 103, Obviousness

Claims 1-25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bouchier et al., U.S. Patent No. 6,918,052 (hereinafter “Bouchier”), in view of Ginsberg, U.S. Patent No. 7,137,117. This rejection is respectfully traversed.

With respect to Claim 1, Applicants urge that none of the cited references teach or suggest the claimed feature of “receiving a call from an operating system, wherein the call indicates that a selected processor in the set of processors is unneeded for a period of time that is included in the call from the operating system”. As can be seen, a call from an operating system is received, and the call itself indicates that a selected processor is unneeded for a period of time that is included in the operating system call. In rejecting this aspect of Claim 1, the Examiner cites Ginsberg’s teaching at col. 2, lines 38-45; col.

4, lines 54-64; and col. 5, lines 22-51. As to the Ginsberg cited passage at col. 2, lines 38-45, there Ginsberg states:

“When there are no threads to schedule, the operating system typically saves power by deactivating or turning off the system's central processing unit (CPU) to place the operating system into an Idle state. The issuance of a system timer tick forces the operating system out of the Idle state by turning the CPU back on so that the operating system can determine if there are any new threads that are ready to be scheduled.”

As can be seen, while this passage may describe that a CPU is turned-off/deactivated, this cited passage does not describe *how* such turning-off/deactivating is accomplished, and this passage certainly does not teach or suggest turn-off/deactivation by a call being receiving from an operating system that indicates that a selected processor in the set of processors is unneeded for a period of time that is included in the call from the operating system.

As to the Ginsberg cited passage at col. 4, lines 54-64, there Ginsberg states:

“The operating system provides various system services such as a thread scheduling mechanism to one or more application programs 208 running on the computer. **Such system services interface with a hardware abstraction layer (HAL) 212, which is used by the operating system, and indirectly by the application programs, to set the system hardware timer 214.** The HAL is a device specific program module that is provided by the computer's 202 manufacturer as is understood by those skilled in the art. However, the HAL could also be provided by another entity such as an operating system provider.”

As can be seen, this cited col. 4 passage describes an operating system interface with a hardware abstraction layer that is used to set a system hardware timer. This cited passage does not teach or suggest the claimed feature of “receiving a call from an operating system, wherein the call indicates that a selected processor in the set of processors is unneeded for a period of time that is included in the call from the operating system” – i.e. there is no description of a *call* that is received from an operating system that includes both (1) a selected processor indicator, and (2) a period of time (Claim 1; Specification page 18, lines 10-13). Rather, this cited passage merely describes an ability to access/set a system hardware timer.

As to the Ginsberg cited passage at col. 5, lines 22-51, there Ginsberg states:

“In response to each system tick from the hardware timer 214, the scheduler determines whether there are any new threads to schedule for execution. If there are no threads to schedule for execution, there is no work for the operating system to perform. Thus, the scheduler determines a maximum amount of time (dwSleepMin-DiffMSec) that it can idle, or sleep before it needs to schedule a new thread. This maximum amount of time is the amount of time that a thread can yield before needing to be scheduled for execution.

The maximum amount of time is dynamically variable since it is based on a sleep state of the set of threads in the sleep queue at that moment in time. This dynamically variable amount of time represents that amount of time that the system will remain idle before scheduling another thread for execution. This dynamically variable amount of time is completely independent of the periodic amount of time that is represented by the system's tick rate for scheduling threads.

The scheduler then requests the HAL 212 to place the system into an idle state and reduce the system's power consumption. This is accomplished by deactivating one or more components such as one or more modules of the operating system, one or more hardware elements coupled to the system (such as the CPU), and the like.

Responsive, to receipt of the request, the HAL resets the system timer to generate a notification after the dynamically variable, or maximum amount of time has expired and deactivates the one or more components, thereby placing the system into an Idle state.”

As can be seen, this cited passage similarly does not teach or suggest the claimed feature of “receiving a call from an operating system, wherein the call indicates that a selected processor in the set of processors is unneeded for a period of time that is included in the call from the operating system” – i.e. there is no description of a *call* that is received from an operating system that includes both (1) a selected processor indicator, and (2) a period of time (Claim 1; Specification page 18, lines 10-13). Rather, this cited passage describes a request to place a system into an idle state.

To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. MPEP 2143.03. *See also, In re Royka*, 490 F.2d 580 (C.C.P.A. 1974). If the examiner fails to establish a *prima facie* case, the rejection is improper and will be overturned. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). It is thus urged that Claim 1 has been erroneously rejected as a proper *prima facie* showing of obviousness has not been established by the Examiner due to the missing claimed features indicated above (details of the receiving step) that are not taught or suggested by the cited references.

In any event, in order to further expeditious processing of this application, Applicants have amended Claim 1 to include the features previously recited in Claims 2 and 6 (which are thus being cancelled herewith, without prejudice or disclaimer), and to better tie together the operational co-action between the run time abstraction layer and the multi-partitioning management functionality. As amended, Claim 1 recites that the runtime abstraction layer that is used for managing the resources of the multi-partitioned processing system is also used for receiving the call to invoke the processor power reduction mode. In contrast, the Ginsberg HAL module – which is cited by the Examiner as reading on the claimed runtime abstraction layer (in the rejection of Claim 6) - provides no such multi-processor partitioning management functionality. Thus, it is further urged that Claim 1 is not obvious in view of the cited references due to these additional claimed features that are not taught or suggested by the cited reference,

which synergistically provide enhanced power management for a plurality of processors in such a multi-partitioned system.

Applicants traverse the rejection of Claims 3-5, 7 and 8 for reasons given above with respect to Claim 1 (of which Claims 2-8 depend upon).

Applicants traverse the rejection of Claims 9, 11-13, 15-17, 19-21 and 23-25 for similar reasons to those given above with respect to Claim 1.

Therefore, the rejection of Claims 1-25 under 35 U.S.C. § 103 has been overcome.

IV. Conclusion

It is respectfully urged that the subject application is patentable over the cited references and is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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